Table LM3/4.5.1-2

MISSION D LGC PRELAUNCH ERASABLE LOAD

MISSION TAPE

(NASA DATA SOURCE)

REV	Mnemonic	Address	Value	SF	Octal	Remark
	PHSPRDT2	1057	13000 octal	-	13000	restart protection during P00
*	X789	1700, 1701	0 rad.	5	00000 00000	best estimate of bias necessary to offset RR position error
*	X789+2	1702, 1703	0 rad.	5	00000 00000	
*	X789+4	1704, 1705	0 rad.	5	00000 00000	
*	AZO	1711, 1712	0.7753207269 rev	0	30636,33265	279.1154617° for period from 7/1/68 to 7/1/69
*	WRENDPOS	2000	304.8 m	14	00461	1000 ft; W matrix initialization
*	WRENDVEL	2001	0.003048 m/cs	0	00062	1 ft/sec; W matrix initialization
*1	WSHAFT	2002	0.005 rad.	-5	05075	5 mr; W matrix initialization
*1	WTRUN	2003	0.005 rad.	-5	05075	5 mr; W matrix initialization
*	RMAX	2004	1524.0 m	19	00060	5000 ft; maximum state vector update in position allowed without astronaut approval.

Table LM3/4.5.1-2 (Cont)

(NASA DATA SOURCE)

MISSION D LGC PRELAUNCH ERASABLE LOAD

MISSION TAPE

REV	Mnemonic	Address	Value	SF	Octal	Remark
*	VMAX	2005	.01524 m/cs	7	00002	maximum state vector update in velocity allowed without astronaut approval; 5 ft/sec
*	SHAFTVAR	2006	1×10^{-6} rad.^{2}	+12	00103	variance associated with the measured value of the RR shaft angle.
*	TRUNVAR	2007	1×10^{-6} rad.^{2}	+12	00103	variance associated with the measured value of the RR trunnion angle
**2	ROLLTIME	3001	3403 cs	14	06513	DPS gimbal drive time (R-axis)
**2	PITTIME	3002	2911 cs	14	05537	DPS gimbal drive time (Q-axis)
*	DKTRAP	3003	-0.0038888888 $\frac{\text{revs}}{\text{sec}}$	-3	77001	deadband for the state estimator in the docked configuration
*	DKOMEGAN	3004	10	14	00012	Kalman filter gain for the dockad configuration
*	DKKAOSN	3005	60	14	00074	Kalman filter gain for the docked configuration
*	LMTRAP	3006	-0.0038888888 $\frac{\text{revs}}{\text{sec}}$	-3	77001	deadband for the state estimator in the LM alone configuration
*	LMOMEGAN	3007	0	14	00000	Kalman filter gain for the LM alone configuration

Table LM3/4.5.1-2 (Cont)

MISSION D LGC PRELAUNCH ERASABLE LOAD (NASA DATA SOURCE)

MISSION TAPE

REV	Mnemonic	Address	Value	SF	Octal	Remark
*	LMKAOSN	3010	60	14	00074	Kalman filter gain for the LM alone configuration
*1	ATIGINC	3400,3401	18000 cs	28	00001,03120	Time between TPM burn targeting by the active vehicle and TIG used in P35
*1	PTIGINC	3402,3403	18000 cs	28	00001,03120	Time between TPM burn targeting by the passive vehicle and TIG, used in P75
*	ZOOMTIME	3421	2600 cs	14	05050	Time after ignition to raise the DPS to full throttle position
** 1	DUMPCNT	0333	2	3	10000	Number of erasable dumps performed by a V74
*1	GCOMPSW	1477	0	14	00000	
*1	RANGEVAR	2364,2365	$0.1111111111 \times 10^{-4}$	-12	01351 24734	range variance
*1	RATEVAR	2366,2367	1.877777×10^{-5}	-12	02354 04750	rate variance
*1	RVARMIN	2370,2371,2372	66.0 m^2	40	00000,00000 00410	minimum position variance
*	VVARMIN	2373,2374	$0.17445 \times 10^{-5} (a/ee)^2$	2	00000 00165	minimum velocity variance
*	DKDB	3011	257.1428630 rev^{-1}	15	00201	docked deadband; 1/1.4°

Table LM3/4.5.1-2 (Cont)
MISSION D LGC PRELAUNCH ERASABLE LOAD

(NASA DATA SOURCE)

LAUNCH TAPE

REV	Mnemonic	Address	Value	SF	Octal	Remark
2	MASS	1243, 1244	28328.567 kg	16	15652,04422	approximate mass of vehicle at LM powerup 62,453.8 lbs.
**2	LEMMASS	1335	14697 kg	16	07132	approximate mass of LM at LM powerup 32,401.2 lbs.
**2	CSMMASS	1336	13632 kg	16	06520	30,052.6 lbs
*	PBIASX	1452	pipa counts / cs	-5	03131	+0.31 cm/sec^2
*	PIPASCFX	1453		-9	60066	-968 ppm
*	PBIASY	1454	pipa counts / cs	-5	01744	+0.19 cm/sec^2
*	PIPASCFY	1455		-9	60462	-941 ppm
*	PBIASZ	1456	pipa counts / cs	-5	00000	+0.00 cm/sec^2
*	PIPASCFZ	1457		-9	62045	-852 ppm
*	NBDX	1460	gyro pulses / cs	-5	01111	+4.6 meru

This data reflects tests through December 10, 1968.

NOTE: For cells 1452-1470, the numbers in the value and remarks columns may not exactly match those in the octal column due to use of octal conversion tables. Error is insignificant.

Table LM3/4.5.1-2 (Cont)

MISSION D LGC PRELAUNCH ERASABLE LOAD

LAUNCH TAPE

(NASA DATA SOURCE)

REV	Mnemonic	Address	Value	SF	Octal	Remark
*	NBDY	1461	$\frac{\text{gyro pulses}}{\text{cs}}$	-5	01174	+5.0 meru
*	NBDZ	1462	$\frac{\text{gyro pulses}}{\text{cs}}$	-5	01075	+4.5 meru
*	ADIAX	1463	$\frac{\text{gyro pulses}}{\text{cm/sec}^2}$	-5	00202	+5.4 meru/g
*	ADIAY	1464	$\frac{\text{gyro pulses}}{\text{cm/sec}^2}$	-5	00000	-0.3 meru/g
*	ADIAZ	1465	$\frac{\text{gyro pulses}}{\text{cm/sec}^2}$	-5	01010	+19.6 meru/g
*	ADSRAX	1466	$\frac{\text{gyro pulses}}{\text{cm/sec}^2}$	-5	77745	-0.5 meru/g
*	ADSRAY	1467	$\frac{\text{gyro pulses}}{\text{cm/sec}^2}$	-5	00640	+16.3 meru/g
*	ADSRAZ	1470	$\frac{\text{gyro pulses}}{\text{cm/sec}^2}$	-5	77713	-1.7 meru/g
* 2	TEPHEM	1706-1710	20968[illegible]0000 cs	42	00007, 31740,30000	Time from 00:00:00 GMT on July 1 to midnight GMT immediately prior to AGC clock align
* 2	UNITW	1713, 1714	0.0000167989	0	00000,10635	The values for TEPHEM and UNITW are for launch on Feb. 28, 1969 at 1600 GMT.
* 2	UNITW+2	1715, 1716	0.0000458404	0	00000,30021	

Table LM3/4.5.1-2 (Cont)
MISSION D LGC PRELAUNCH ERASABLE LOAD
LAUNCH TAPE

(NASA DATA SOURCE)

REV	Mnemonic	Address	Value	SF	Octal	Remark
	UNITW+4	1717, 1720	0.9999999988	0	37777 37777	Polar axis in reference coordinates
*1	HIASCENT	3000	4600 kg	16	02176	upper bound on mass of the ascent stage ≈ 10,145.4
*	AOTAZ	3404	-0.3305555556 revs	-1	65330	-59.50° (twos complement)
*	AOTAZ+1	3405	0.0026111111 revs	-1	00053	0.47°
*	AOTAZ+2	3406	0.3357777778 revs	-1	12575	60.44°
*	AOTEL	3407	0.2501111111 revs	-1	10002	45.02°
*	AOTEL+1	3410	0.2502222222 revs	-1	10004	45.04°
*	AOTEL+2	3411	0.2502222222 revs	-1	10004	45.04°

Volume II LM Data Book
ERASABLE MEMORY CHANGES
FOR DELAYED LAUNCH
(NASA DATA SOURCE)

For launch on 28th	UNITW	.0000167989 00000,10635	.0000458404 00000,30021	.9999999988 37777,37777
	TEPHEM	2,096,640,000 cs 00004,31740,30000		
For launch on 1st	UNITW	.0000171152 00000,10762	.0000460715 00000,30117	.9999999988 37777,37777
	TEPHEM	2,105,280,000 cs 00007,32760,03000		
For launch on 2nd	UNITW	.0000173637 00000,11065	.0000463410 00000,30230	.9999999988 37777,37777
	TEPHEM	2,113,920,000 cs 00007,33777,16000		
For launch on 3rd	UNITW	.0000175331 00000,11143	.0000466128 00000,30341	.9999999988 37777,37777
	TEPHEM	2,122,560,000 cs 00007,35016,31000		
For launch on 4th	UNITW	.0000176261 00000,11173	.0000468454 00000,30437	.9999999988 37777,37777
	TEPHEM	2,131,200,000 cs 00007,36035,04000		
For launch on 5th	UNITW	.0000176623 00000,11205	.0000469986 00000,30510	.9999999987 37777,37777
	TEPHEM	2,139,840,000 cs 00007,37054,17000		
For launch on 6th	UNITW	.0000176767 00000,11211	.0000470441 00000,30524	.9999999987 37777,37777
	TEPHEM	2,148,480,000 cs 00010,00074,32000		